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PTO/SB/21 (05-03)
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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/406,330	
	Filing Date	September 27, 1999	
	First Named Inventor	Ellis T. CHA	
	Art Unit	2652	
	Examiner Name	David Donald DAVIS	
Total Number of Pages in This Submission	40	Attorney Docket Number	2855/16

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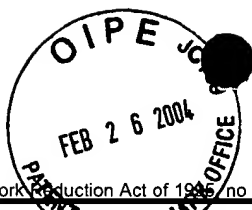
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Stephen T. Neal (Reg. No. 47,815)
Signature	<i>Stephen T. Neal</i>
Date	February 23, 2004

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Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$)**330.00**

Complete if Known

Application Number **09/406,330**
Filing Date **September 27, 1999**
First Named Inventor **Ellis T. CHA**
Examiner Name **David Donald DAVIS**
Art Unit **2652**
Attorney Docket No. **2855/16**

METHOD OF PAYMENT (check all that apply)

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Kenyon & Kenyon

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FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)					(\$) 0

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

	Extra Claims	Fee from below	Fee Paid
Total Claims	-20** =	18.00	
Independent Claims	-3** =	86.00	
Multiple Dependent			

<u>Large Entity</u>		<u>Small Entity</u>		<u>Fee Description</u>
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1051	130	2051	65	Surcharge - late filing fee or oath
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet
1053	130	1053	130	Non-English specification
1812	2,520	1812	2,520	For filing a request for <i>ex parte</i> reexamination
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action
1251	110	2251	55	Extension for reply within first month
1252	420	2252	210	Extension for reply within second month
1253	950	2253	475	Extension for reply within third month
1254	1,480	2254	740	Extension for reply within fourth month
1255	2,010	2255	1,005	Extension for reply within fifth month
1401	330	2401	165	Notice of Appeal
1402	330	2402	165	Filing a brief in support of an appeal
1403	290	2403	145	Request for oral hearing
1451	1,510	1451	1,510	Petition to institute a public use proceeding
1452	110	2452	55	Petition to revive - unavoidable
1453	1,330	2453	665	Petition to revive - unintentional
1501	1,330	2501	665	Utility issue fee (or reissue)
1502	480	2502	240	Design issue fee
1503	640	2503	320	Plant issue fee
1460	130	1460	130	Petitions to the Commissioner
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)
1806	180	1806	180	Submission of Information Disclosure Stmt
8021	40	8021	40	Recording each patent assignment per property (times number of properties)
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))
1801	770	2801	385	Request for Continued Examination (RCE)
1802	900	1802	900	Request for expedited examination of a design application

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SUBMITTED BY

Name (Print/Type) **Stephen T. Neal**

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(Attorney/Agent)

47,815

(Complete if applicable)

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Signature

Stephen T. Neal

Date

February 23, 2004

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PATENT



DOCKET NO.: 2855/16

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS : Ellis T. CHA
SERIAL NO. : 09/406,330
FILED : September 27, 1999
FOR : A MULTIPLE LEVEL SURFACE CONFIGURATION
FOR A SUB-AMBIENT PRESSURE AIR BEARING
SLIDER
GROUP ART UNIT : 2652
EXAMINER : David Donald DAVIS

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Dated: February 23, 2004

Barbara Vance
Signature

Barbara Vance

ATTENTION: Board of Patent Appeals and Interferences

APPELLANT'S BRIEF

Dear Sir:

This brief is in furtherance of the Notice of Appeal, filed in this case on December 23, 2003.

03/01/2004 HWUONG1 00000124 110600 09406330

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1. REAL PARTY IN INTEREST

The real party in interest in this matter is SAE Magnetics (H.K.) LTD. (Recorded March 27, 2000; Reel/Frame 010642/0611).

2. RELATED APPEALS AND INTERFERENCES

There are no related appeals.

3. STATUS OF THE CLAIMS

Claims 1-2, 6-7, 11-12, 16-17, 21-22, and 26-27 are pending in the application. Claims 1-2, 6-7, 11-12, 16-17, 21-22, and 26-27 were rejected under 35 U.S.C. §102(e) as being anticipated by Levi et al., U.S. Patent No. 6,137,656 (hereinafter "Levi"). This appeal is an appeal from the rejection of claims 1-2, 6-7, 11-12, 16-17, 21-22, and 26-27.

4. STATUS OF AMENDMENTS

No claims were amended after final.

5. SUMMARY OF THE INVENTION

The present invention relates to an air-bearing surface (ABS) design for a slider used in a hard disk drive. The ABS of the slider has two rails extending in a longitudinal direction along the slider body. The leading edges of the rails are spaced from a leading edge of the slider body.

Embodiments of the slider design of the present invention are shown in Figures 1a and 1b. The slider design of Figures 1a and b provides a sub-ambient pressure slider with a rear compression pad. A shallow leading edge is provided with an open front end that offers an

improved loading and unloading of the slider in the so-called “ramp” design. The slider design is also optimized to provide improved air-bearing stiffness.

Referring to Figure 1a, the slider 10 includes first and second rails 11 and 12 which provide air bearing surfaces when the slider is placed proximately to a moving magnetic medium. At the leading edge 13 of the slider, the slider is etched or otherwise modified to provide a first structure 14 having a first depth relative to the height of the rails 11 and 12. In this embodiment, first structure 14 extends to the outside, the inside and leading edges of the rails 11 and 12. A second structure 15 is provided between the rails 11 and 12 and is etched to a depth that is greater than the first structure. In this embodiment, the first structure 14 is etched to a depth of between 5 to 10 micro-inches and the second structure 15 is etched to a depth of 60-120 micro-inches. Also the second structure 15 begins more than one-third of the entire length from the leading edge of the slider and preferably begins from one-third to two thirds of the entire length from the leading edge of the slider. A rear compression pad 16 may be provided which includes a first surface 16a at a height equal to the height of the first and second rails and a third structure 16b have a third depth. In this embodiment, the third depth is equal to the first depth of the first structure 14. As known in the art, a layer of alumina 17 can be provided for inclusion of a magnetic read/write apparatus. In the second embodiment of Figure 1b, the slider design is modified slightly by providing a different shaping of the rails.

6. ISSUE

A. Are claims 1-2, 6-7, 11-12, 16-17, 21-22, and 26-27 anticipated under 35 U.S.C. §102(e) by Levi et al., U.S. Patent No. 6,137,656 (hereinafter “Levi”)?

7. GROUPING OF CLAIMS

The claims may be grouped as follows. A separate basis of patentability exists for each group.

A. Claims 1-2, 6-7, 11-12, 16-17, 21-22, and 26-27.

The claims in these groups do not stand or fall together unless so indicated below in the argument.

8. ARGUMENT

A. Claims 1-2, 6-7, 11-12, 16-17, 21-22, and 26-27 are not anticipated by Levi

Independent claims 1, 6, 11, 16, 21, and 26 of the present invention describe a slider with a second structure beginning more than one-third of the length of the slider body from the leading edge of the slider body. Claims 2, 7, 12, 17, 22, and 27, respectively, depend from and further define claims 1, 6, 11, 16, 21, and 26.

Claims 1-2, 6-7, 11-12, 16-17, 21-22, and 26-27 were rejected under 35 U.S.C. §102(e) as being anticipated by Levi. Levi discloses an air bearing slider for use in a disk drive with a plurality of pads that form discrete air bearing surfaces having a uniform height.

35 U.S.C. §102(e) states:

(e) the invention was described in- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a);

Appellant respectfully submits that Levi fails to disclose a second structure that begins more than one-third of the length of the slider body from the leading edge of the slider body, as recited in claims 1, 6, 11, 16, 21, and 26. The specification of Levi makes no reference to where the cavity 46, cited as the second structure by the Examiner, begins in relation to the leading edge 28 of the slider body 16 and examiner has not cited to such. Therefore, Figures 2 and 3 of Levi would be the only way to divine this limitation if it existed in Levi. In Figures 2 and 3, the length of the slider body 16 is shown to be 5.7 cm for purposes of the drawing representation. To meet this limitation, the cavity 46 would have to begin more than 1.9 cm, or one-third of the length of the slider body 16, from the leading edge 28. The cavity 46 begins 0.8 cm from the leading edge 28 in Figure 2 and 0.9 cm from the leading edge 28 in Figure 3. In other words, the cavity 46 begins substantially less than a third of the length of the slider body 16 from the leading edge 28, indeed beginning less than a sixth of the length of the slider body 16 from the leading edge 28. Therefore, Levi does not anticipate claims 1, 6, 11, 16, 21, and 26. Appellant respectfully submits, therefore that claims 2, 7, 12, 17, 22, and 27 are allowable as depending from allowable base claims.

In summary, it has been demonstrated that the Levi reference does not suggest the recited claim combination. Accordingly, a rejection of these claims under 35 U.S.C. §102(e) is improper. In view of the above, Appellants respectfully submit that the rejection of claims 1-2, 6-7, 11-12, 16-17, 21-22, and 26-27 should be reversed.

CONCLUSION

Appellants therefore respectfully request that the Board of Patent Appeals and Interferences reverse the Examiner's decision rejecting claims 1-21 and direct the Examiner to pass the case to issue.

The Examiner is hereby authorized to charge the appeal brief fee of **\$330.00** and any additional fees which may be necessary for consideration of this paper to Kenyon & Kenyon Deposit Account No. **11-0600**.

Respectfully submitted,

KENYON & KENYON

Date: February 23, 2004

By: Stephen Neal
Stephen Neal
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APPENDIX

(Brief of Appellants Ellis Cha et al.
U.S. Patent Application Serial No. 09/406,330)

CLAIMS ON APPEAL

1. (Previously Presented) A slider comprising:

a slider body;

first and second rails extending in a longitudinal direction along the slider body where leading edges of said rails are spaced from a leading edge of the slider body;

a first structure having a first depth and extending from said leading edge of the body to the leading edges of the first and second rails and between the first and second rails;

a second structure having a second depth disposed adjacent to said first structure and between said first and second rails, said second depth being lower than said first depth; and wherein said second structure begins more than one-third of the length of the slider body from the leading edge of the slider body; and

a compression pad disposed proximately to a trailing edge of said slider body, said compression pad having a height equal to a height of said first and second rails and said compression pad including a third structure having a depth equal to the first depth.

2. (Previously Presented) The slider of claim 1

wherein said first and second rails are generally closer to one another near the leading edge than near the trailing edge.

3-5. (Cancelled)

6. (Previously Presented) A slider comprising:
- a slider body;
 - first and second rails extending in a longitudinal direction along the slider body;
 - a first structure having a first height and extending from a leading edge of the body and between the first and second rails;
 - a second structure having a second height disposed adjacent to said first structure and between said first and second rails, said second height being lower than said first height; and
 - wherein said second structure begins more than one-third of the length of the slider body from the leading edge of the slider body; and
 - a compression pad disposed proximately to a trailing edge of said slider body, said compression pad having a height equal to a height of said first and second rails and said compression pad including a third structure having a height equal to the first height.
7. (Previously Presented) The slider of claim 6
- wherein said first and second rails are generally closer to one another near the leading edge than near the trailing edge.
- 8-10. (Cancelled)
11. (Previously Presented) A head suspension assembly comprising:
- a flexure; and
 - a slider coupled to said flexure, said slider including
 - a slider body;

first and second rails extending in a longitudinal direction along the slider body where leading edges of said rails are spaced from a leading edge of the slider body;

a first structure having a first depth and extending from said leading edge of the body to the leading edges of the first and second rails and between the first and second rails;

a second structure having a second depth disposed adjacent to said first structure and between said first and second rails, said second depth being lower than said first depth; and wherein said second structure begins more than one-third of the length of the slider body from the leading edge of the slider body; and

a compression pad disposed proximately to a trailing edge of said slider body, said compression pad having a height equal to a height of said first and second rails and said compression pad including a third structure having a depth equal to the first depth.

12. (Previously Presented) The head suspension of claim 11

wherein said first and second rails are generally closer to one another near the leading edge than near the trailing edge.

13-15. (Cancelled)

16. (Previously Presented) A head suspension assembly comprising:

a flexure;

a slider coupled to said flexure, said slider including

a slider body;

first and second rails extending in a longitudinal direction along the slider body;

a first structure having a first height and extending from a leading edge of the body and between the first and second rails;

a second structure having a second height disposed adjacent to said first structure and between said first and second rails, said second height being lower than said first height; and wherein said second structure begins more than one-third of the length of the slider body from the leading edge of the slider body; and

a compression pad disposed proximately to a trailing edge of said slider body, said compression pad having a height equal to a height of said first and second rails and said compression pad including a third structure having a height equal to the first height.

17. (Previously Presented) The head suspension of claim 16

wherein said first and second rails are generally closer to one another near the leading edge than near the trailing edge.

18-20. (Cancelled)

21. (Previously Presented) A disk drive comprising:

a recording medium adapted to be rotated at a given velocity;

a flexure;

a slider coupled to said flexure and adapted to fly above said recording medium when rotated, the slider including

a slider body;

first and second rails extending in a longitudinal direction along the slider body where leading edges of said rails are spaced from a leading edge of the slider body;

a first structure having a first depth and extending from said leading edge of the body to the leading edges of the first and second rails and between the first and second rails;

a second structure having a second depth disposed adjacent to said first structure and between said first and second rails, said second depth being lower than said first depth; and wherein said second structure begins more than one-third of the length of the slider body from the leading edge of the slider body; and

a compression pad disposed proximately to a trailing edge of said slider body, said compression pad having a height equal to a height of said first and second rails and said compression pad including a third structure having a depth equal to the first depth.

22. (Previously Presented) The disk drive of claim 21

wherein said first and second rails are generally closer to one another near the leading edge than near the trailing edge.

23-25. (Cancelled)

26. (Previously Presented) A disk drive comprising:

a recording medium adapted to be rotated at a given velocity;

a flexure;

a slider coupled to said flexure and adapted to fly above said recording medium when rotated, the slider including

a slider body;

first and second rails extending in a longitudinal direction along the slider body;

a first structure having a first height and extending from a leading edge of the body and between the first and second rails;

a second structure having a second height disposed adjacent to said first structure and between said first and second rails, said second height being lower than said first height; and wherein said second structure begins more than one-third of the length of the slider body from the leading edge of the slider body; and

a compression pad disposed proximately to a trailing edge of said slider body, said compression pad having a height equal to a height of said first and second rails and said compression pad including a third structure having a height equal to the first height.

27. (Previously Presented) The disk drive of claim 26

wherein said first and second rails are generally closer to one another near the leading edge than near the trailing edge.

28-30. (Cancelled)